

(No Model.)

J. F. HARDISTY.

BREAST DRILL.

No. 295,386.

Patented Mar. 18, 1884.

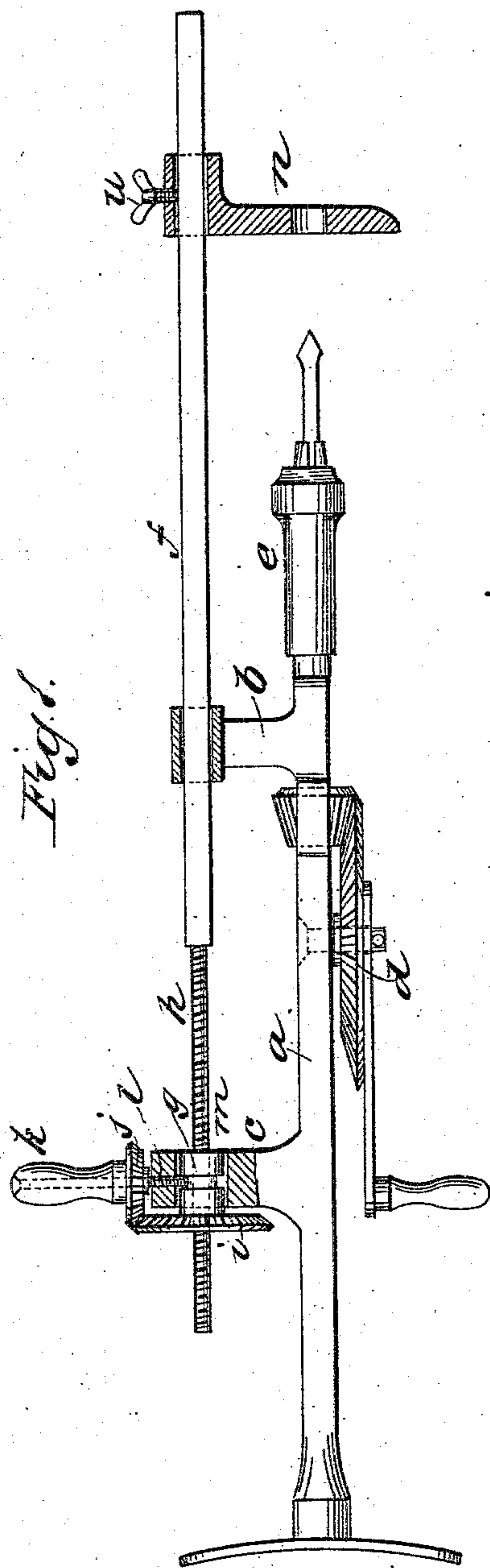


Fig. 1.

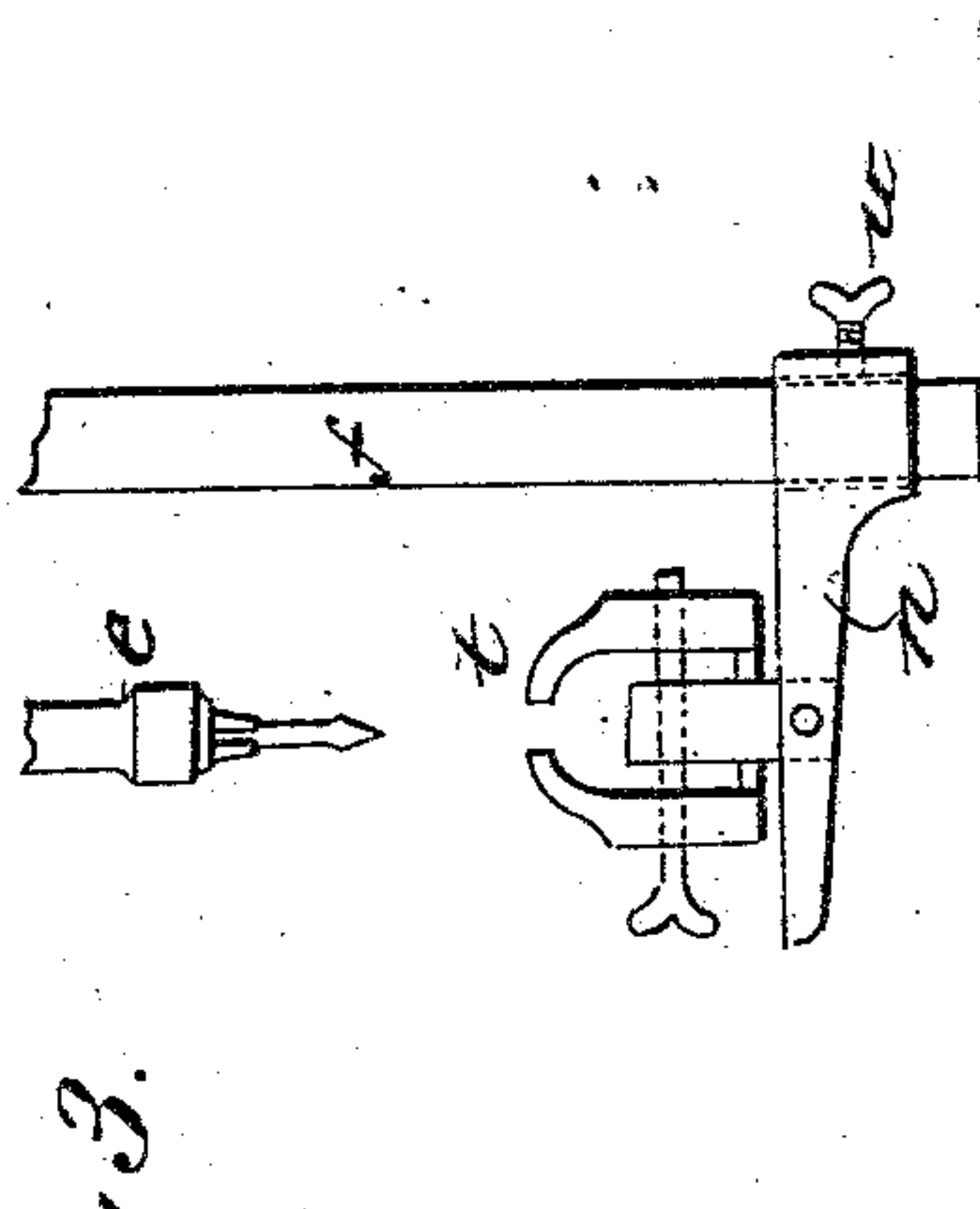


Fig. 3.

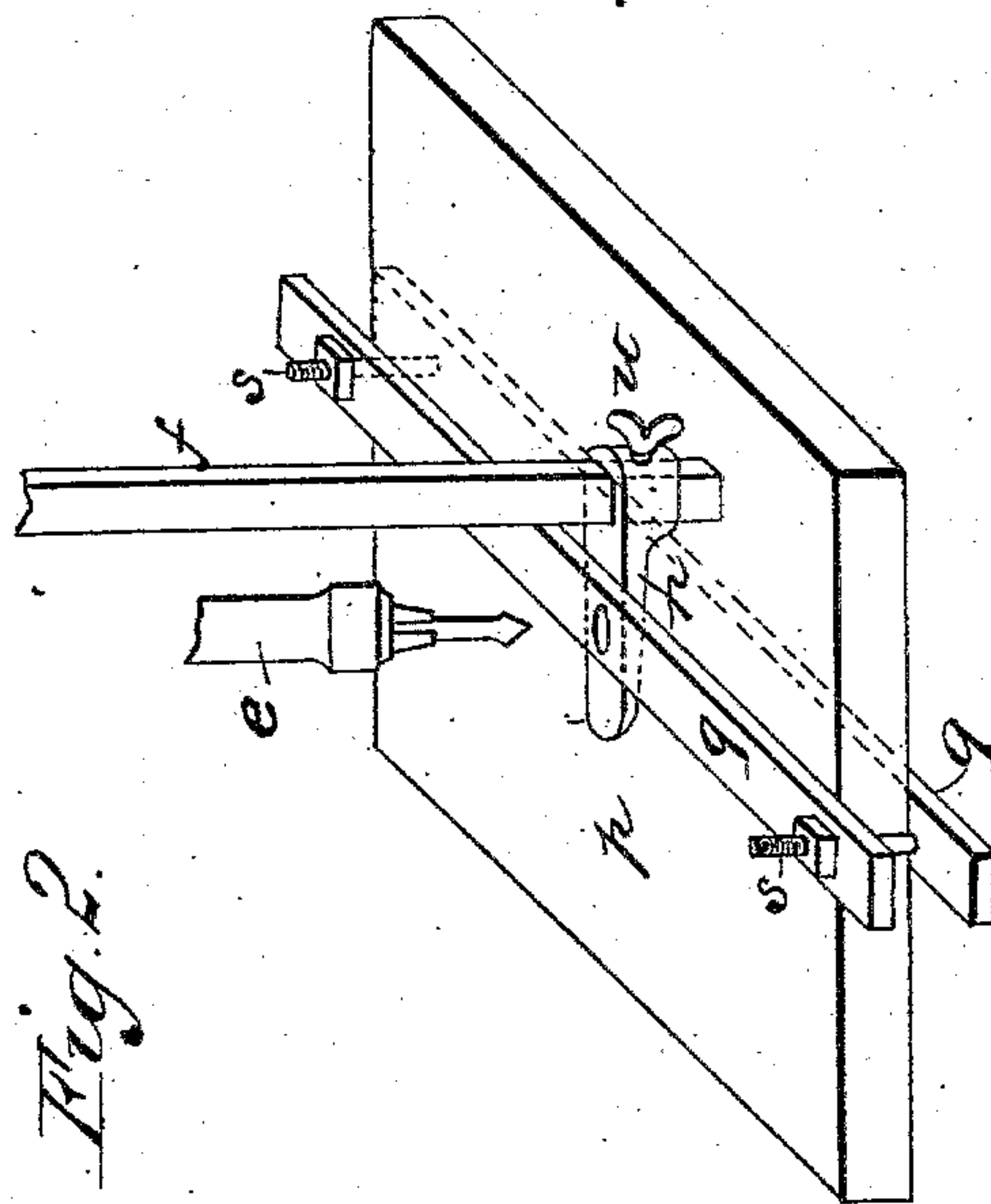


Fig. 2.

WITNESSES:

Francis McArdle.
C. Sedgwick

INVENTOR:

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UNITED STATES PATENT OFFICE.

JOHN F. HARDISTY, OF BONAPARTE, IOWA.

BREAST-DRILL.

SPECIFICATION forming part of Letters Patent No. 295,386, dated March 18, 1884.

Application filed October 19, 1883. (No model.)

To all whom it may concern:

Be it known that I, JOHN F. HARDISTY, of Bonaparte, Van Buren county, Iowa, have invented a new and Improved Breast-Drill, of which the following is a full, clear, and exact description.

My invention consists of a screw-feed attachment to hand or breast drills, said feed attachment being applied so as to be used or not, as may be preferred, and being adapted to save the operator considerable labor, and to enable the drill to do better work than without said feed attachment, as hereinafter fully described.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation, with some parts in section, of a breast-drill with my improved feed attachment applied. Fig. 2 is a perspective view of portions of the drill, showing the application of a drill to a large piece of work, so as to use the feed attachment; and Fig. 3 is a side elevation of parts of the drill with a vise attached for holding the work.

I construct the drill-stock *a* with arms or brackets *b* and *c* on the side opposite to the crank-gear *d*, which drives the spindle of the drill-chuck *e*, and I fit a strong bar, *f*, to slide in the bracket *b*, and also fit a feed-nut, *g*, in the bracket *c*, said feed-nut being fitted on the upper screw-threaded section, *h*, of the bar *f*, and having a toothed wheel, *i*, attached to one end, which gears with a bevel-pinion, *j*, attached to a thumb-bit, *k*, which is fitted on the supporting-stud *l*, projecting from the end of bracket *c*, so as to support said pinion *j* suitably to be turned by the thumb-bit *k* for working the feed-nut to draw the bar along the drill-chuck *e*. The stud *l* projects into a groove, *m*, of the feed-nut *g*, to prevent the nut from shifting lengthwise by the stress of the bar *f*.

The lower end of this bar *f* carries a bracket, *n*, which serves for the work-table, the work being placed on it and forced against the drill by the feed-nut *g*, which is to be turned by the left hand of the operator, who turns the crank-gear *d* by the right hand.

If the piece of work is large and heavy, as at *p* in Fig. 2, the drill may be clamped to the surface of the same by a couple of bars, *q*, and bolts *s*, holding the drill upright on the work, or a vise, *t*, may be attached to the bracket *n*, as in Fig. 3, for holding the work by that means. The bracket *n* is fitted to the bar *f* with a binding-screw, *u*, to be shifted along the bar, according to the size of the work to be drilled.

The bar *f* may be taken off at any time by turning the feed-nut *g* backward and screwing the bar out of the nut. The bar is fitted parallel to the stock *a*, and thus will feed the work correctly and so as to be bored truly when the work is placed squarely to the face of the bracket *n*.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a breast-drill, the combination, with the drill-stock *a*, provided with the brackets *b* *c*, of the feed-bar *f*, having the screw-threaded section *h*, and carrying the bracket *n*, the feed-nut *g*, arranged in the bracket *c*, and means for turning said nut, substantially as herein shown and described.

2. The feed-nut *g*, having groove *m*, and bevel-wheel *i*, thumb-bit *k*, having pinion *j*, and the stud-pin *l*, supporting the thumb-bit and securing the feed-nut, in combination with the feed-bar *f* and drill-stock *a*, substantially as described.

JOHN F. HARDISTY.

Witnesses:

JONAS HAGEY,

EDWARD A. BAILEY.